1/10

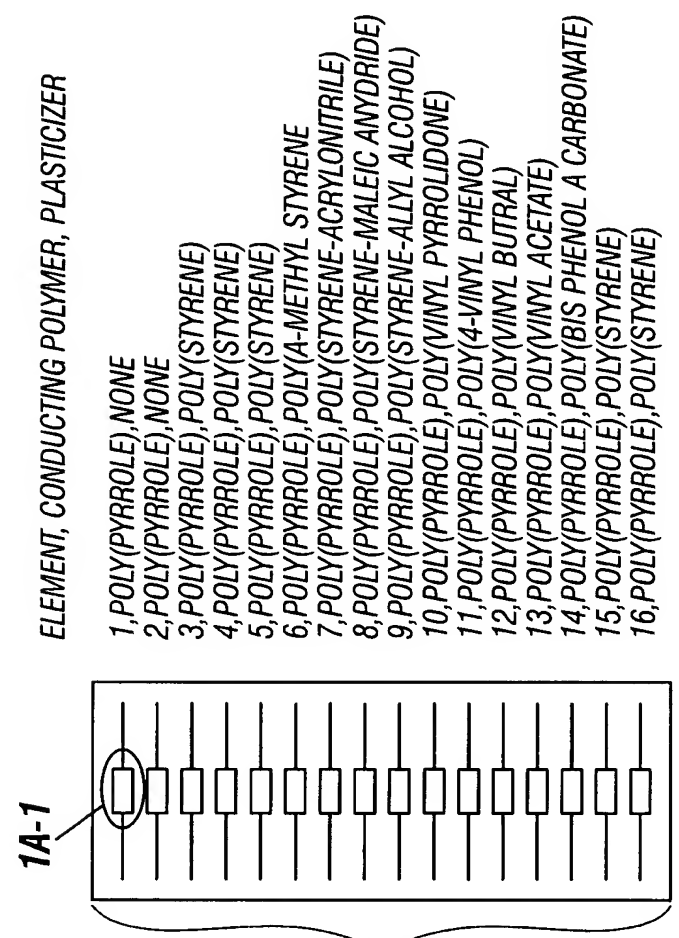

FIG. 1A

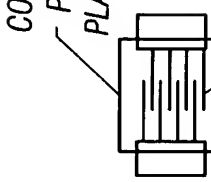

FIG. 1A-1

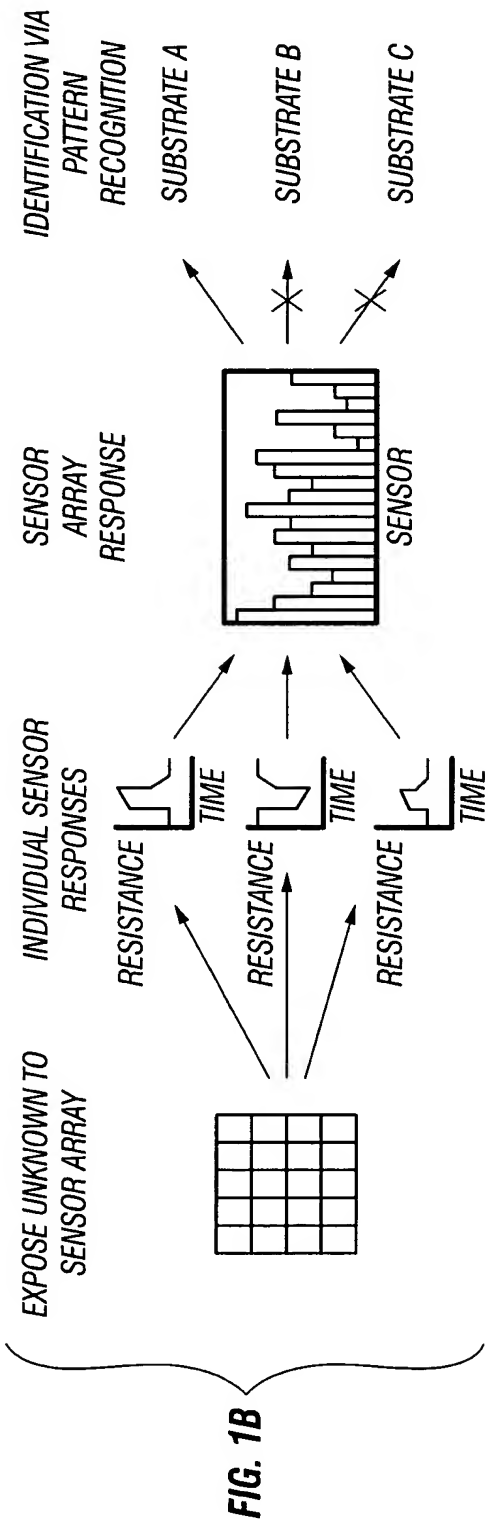

FIG. 1B

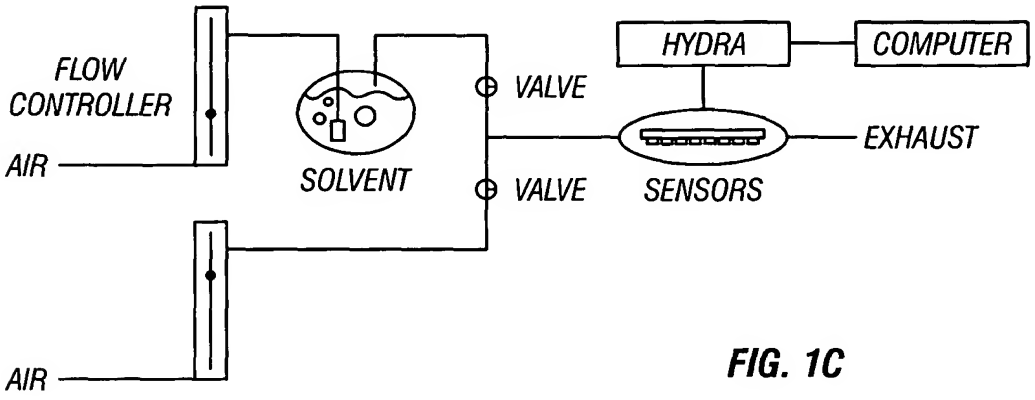
FLOW
CONTROLLER
AIR
AIR
SOLVENT
VALVE
VALVE
HYDRA
COMPUTER
EXHAUST
SENSORS

FIG. 1C

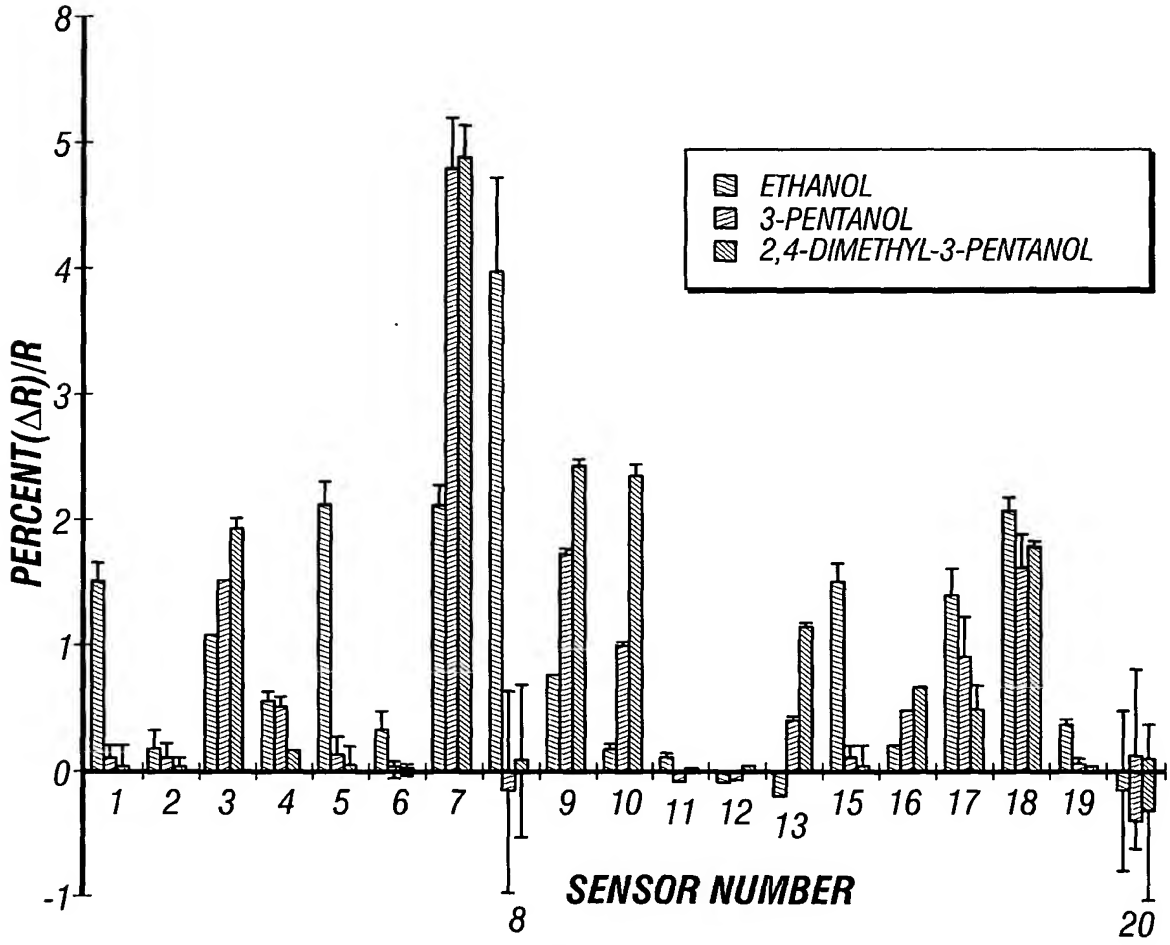
ETHANOL
3-PENTANOL
2,4-DIMETHYL-3-PENTANOL
PERCENT(ΔR)/R
SENSOR NUMBER
8
5
4
3
2
1
0
-1
1 2 3 4 5 6 7 8 9 10 11 12 13 15 16 17 18 19 20

FIG. 2

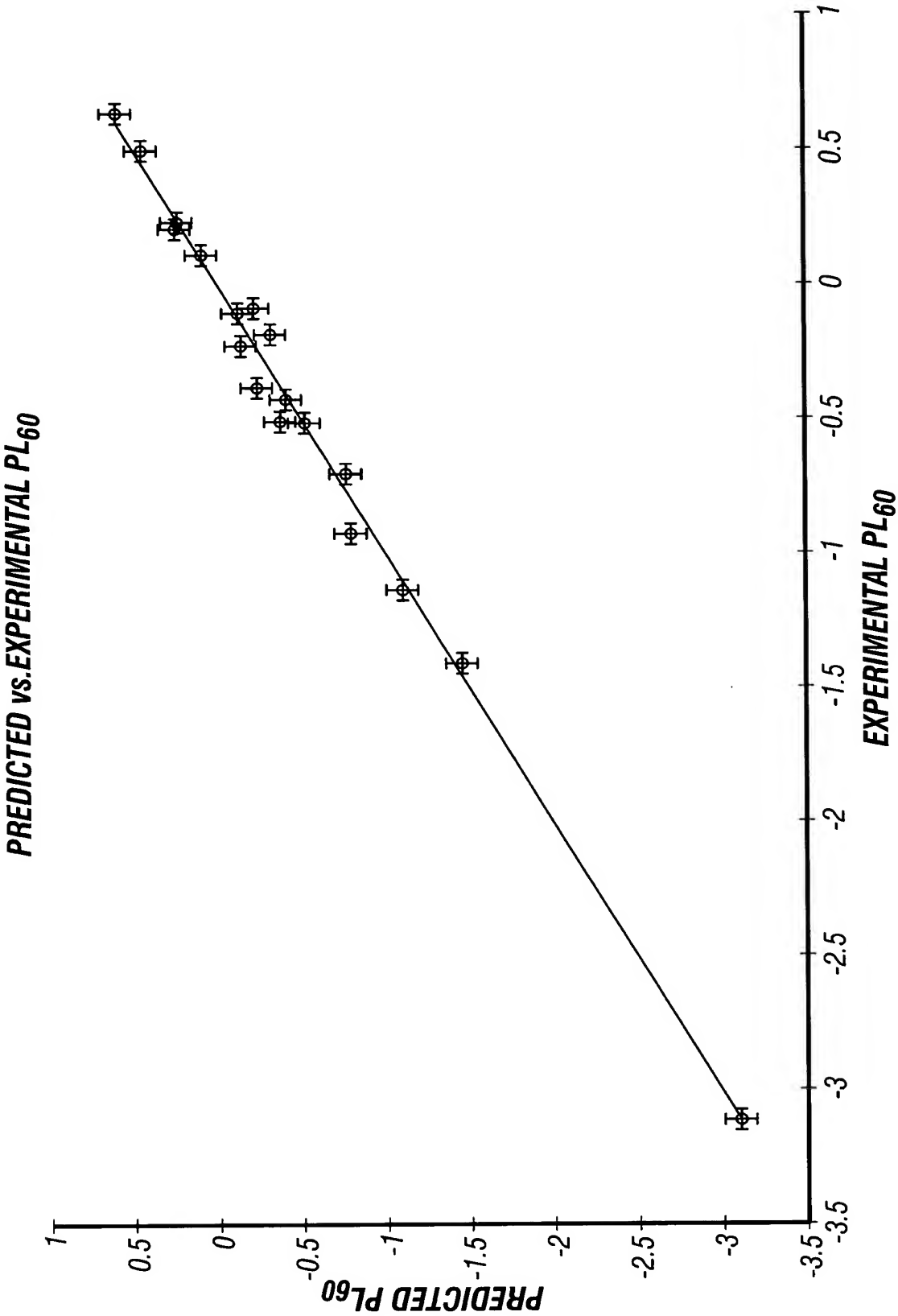
PREDICTED vs.EXPERIMENTAL PL_{60}
PREDICTED PL_{60}
EXPERIMENTAL PL_{60}
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
-3
-3.5

FIG. 3

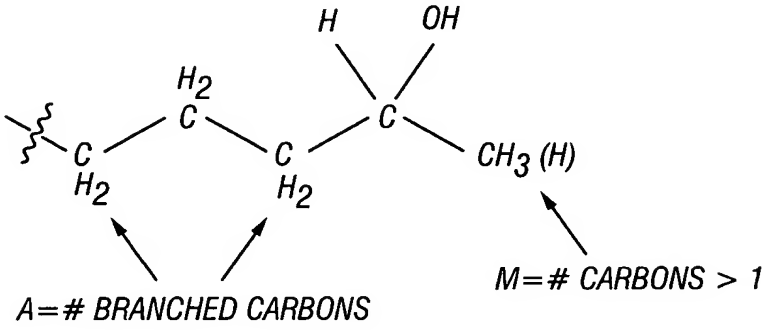

FIG. 4

alcohol	experimental pl_{50}	run# (bubbler#)	sensor # polymer name: poly(4-vinylpyridine) 1	poly(vinyl chloride) 2	poly(ethylene oxide) 3
1-butanol	-0.05	1 (8)	0.23 (0.08)	0.01 (0.15)	1.83 (0.22)
1-heptanol	0.68	2 (6)	0.05 (0.10)	0.04 (0.16)	1.90 (0.10)
1-hexanol	0.54	3 (6)	0.09 (0.08)	0.03 (0.16)	1.76 (0.04)
1-pentanol	0.27	3 (7)	0.17 (0.10)	-0.03 (0.13)	1.63 (0.02)
1-propanol	-0.48	3 (3)	0.55 (0.14)	-0.03 (0.19)	1.18 (0.01)
2,4-dimethyl-3-pentanol	-1.38	2 (1)	0.05 (0.14)	-0.02 (0.13)	2.00 (0.06)
2-butanol	-0.35	2 (8)	0.20 (0.13)	-0.06 (0.12)	1.35 (0.04)
2-heptanol	0.25	1 (2)	0.13 (0.08)	-0.04 (0.09)	2.89 (0.54)
2-hexanol	0.15	2 (2)	0.16 (0.15)	0.01 (0.15)	1.69 (0.09)
2-methyl-1-butanol	-0.15	2 (7)	0.04 (0.11)	0.02 (0.12)	1.74 (0.05)
2-methyl-1-propanol	-0.39	1 (6)	0.12 (0.07)	0.01 (0.12)	1.84 (0.15)
2-methyl-3-pentanol	-0.89	1 (1)	0.13 (0.09)	0.06 (0.11)	2.34 (0.33)
2-pentanol	-0.07	3 (8)	0.06 (0.06)	-0.03 (0.13)	1.41 (0.02)
2-propanol	-0.47	1 (7)	0.24 (0.08)	0.13 (0.14)	1.58 (0.23)
3-hexanol	-0.47	3 (1)	0.07 (0.08)	0.01 (0.13)	1.57 (0.03)
3-methyl-1-butanol	-0.19	3 (5)	0.08 (0.08)	0.03 (0.08)	1.49 (0.02)
3-pentanol	-0.37	2 (4)	0.11 (0.09)	0.08 (0.15)	1.52 (0.04)
ethanol	-1.10	2 (3)	1.52 (0.15)	0.19 (0.14)	1.08 (0.02)
methanol	-3.09	1 (3)	3.71 (0.23)	0.57 (0.12)	1.33 (0.10)
neopentanol (solid)	-0.67	3 (2)	0.03 (0.10)	0.00 (0.18)	1.37 (0.04)
benzyl alcohol	0.32	1 (4)	0.06 (0.07)	0.04 (0.13)	3.05 (0.91)
tert-amyl alcohol	-2.56	1 (5)	0.10 (0.10)	-0.07 (0.14)	1.77 (0.24)
1,3-propanediol	-1.87	3 (4)	-0.02 (0.10)	0.04 (0.12)	0.17 (0.02)
1,4-butanediol	-1.41	2 (5)	-0.01 (0.09)	-0.01 (0.15)	0.19 (0.20)

FIG. 5A

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poly(styrene/allyl alcohol)	poly(4-vinylphenol)	poly(vinyl acetate)	etethyl cellulose	poly(N-vinylpyrrolidone)
4	**5**	**6**	**7**	**8**
0.56 (0.08)	0.41 (0.17)	0.11 (0.08)	4.04 (0.20)	0.31 (0.70)
0.23 (0.02)	0.08 (0.11)	-0.07 (0.05)	4.28 (0.21)	0.52 (0.84)
0.45 (0.05)	0.11 (0.09)	-0.08 (0.05)	5.32 (0.18)	-0.07 (0.60)
0.58 (0.05)	0.16 (0.10)	0.02 (0.04)	4.97 (0.14)	0.67 (0.58)
0.57 (0.04)	0.70 (0.09)	0.20 (0.03)	3.17 (0.14)	1.08 (0.82)
0.17 (0.02)	0.10 (0.11)	0.00 (0.03)	4.94 (0.25)	0.11 (0.61)
0.65 (0.10)	0.29 (0.23)	0.14 (0.05)	3.89 (0.29)	0.23 (0.68)
0.28 (0.04)	0.11 (0.13)	-0.09 (0.05)	4.76 (0.18)	0.23 (0.99)
0.37 (0.03)	0.17 (0.11)	-0.05 (0.03)	5.10 (0.31)	0.77 (0.42)
0.34 (0.04)	0.16 (0.14)	-0.01 (0.04)	4.76 (0.27)	0.09 (0.73)
0.48 (0.08)	0.28 (0.14)	0.10 (0.03)	3.98 (0.20)	0.47 (0.59)
0.29 (0.05)	0.19 (0.11)	-0.03 (0.04)	5.24 (0.26)	0.76 (0.61)
0.57 (0.07)	0.14 (0.09)	0.00 (0.07)	4.90 (0.19)	0.68 (0.55)
0.57 (0.06)	0.62 (0.17)	0.14 (0.06)	3.31 (0.31)	0.40 (0.88)
0.40 (0.04)	0.07 (0.08)	-0.06 (0.05)	5.56 (0.23)	0.02 (1.03)
0.39 (0.03)	0.07 (0.07)	0.01 (0.04)	4.82 (0.13)	0.08 (0.83)
0.55 (0.06)	0.16 (0.13)	-0.01 (0.05)	4.83 (0.41)	-0.13 (0.81)
0.59 (0.05)	2.19 (0.17)	0.31 (0.03)	2.19 (0.14)	4.03 (0.74)
0.55 (0.03)	2.51 (0.21)	0.40 (0.07)	1.82 (0.22)	7.76 (0.78)
0.14 (0.03)	-0.01 (0.05)	0.02 (0.03)	3.28 (0.20)	-0.13 (0.79)
0.22 (0.03)	0.10 (0.07)	-0.03 (0.05)	2.07 (1.01)	-0.10 (0.59)
0.39 (0.07)	0.26 (0.14)	0.06 (0.05)	3.91 (0.29)	0.35 (0.62)
0.06 (0.02)	-0.01 (0.05)	0.01 (0.03)	0.40 (0.19)	-0.39 (0.80)
0.06 (0.06)	0.04 (0.06)	-0.02 (0.04)	0.81 (0.68)	-0.09 (0.79)

FIG. 5B

poly(ethylene/acrylic acid)	poly(ethylene/vinyl acetate)	poly(methyl methacrylate)	poly(methylvinylether/maleic anhydride)	1,2-polybutadiene
9	10	11	12	13
1.65 (0.14)	0.74 (0.10)	0.00 (0.02)	-0.01 (0.01)	0.23 (0.10)
1.66 (0.09)	0.69 (0.04)	0.01 (0.03)	0.00 (0.01)	0.30 (0.02)
1.84 (0.05)	0.73 (0.02)	0.01 (0.03)	-0.01 (0.02)	0.28 (0.01)
1.70 (0.03)	0.67 (0.01)	0.01 (0.02)	0.00 (0.02)	0.21 (0.01)
1.07 (0.02)	0.40 (0.02)	0.01 (0.03)	-0.02 (0.02)	-0.03 (0.01)
2.49 (0.05)	2.42 (0.09)	0.02 (0.02)	0.03 (0.02)	1.19 (0.04)
1.62 (0.03)	0.76 (0.04)	0.00 (0.03)	-0.02 (0.01)	0.26 (0.01)
1.91 (0.06)	0.99 (0.04)	0.00 (0.03)	0.01 (0.03)	0.45 (0.02)
1.97 (0.05)	0.92 (0.03)	-0.01 (0.02)	0.10 (0.02)	0.45 (0.01)
1.82 (0.04)	0.91 (0.03)	-0.01 (0.02)	-0.01 (0.01)	0.41 (0.01)
1.65 (0.10)	0.78 (0.08)	0.00 (0.02)	-0.04 (0.02)	0.28 (0.07)
2.17 (0.02)	1.59 (0.04)	0.00 (0.03)	0.08 (0.02)	0.75 (0.02)
1.77 (0.02)	0.82 (0.02)	-0.01 (0.02)	0.00 (0.01)	0.34 (0.01)
1.45 (0.07)	0.63 (0.04)	0.00 (0.02)	-0.04 (0.03)	0.16 (0.05)
1.81 (0.04)	1.07 (0.01)	0.01 (0.02)	0.01 (0.02)	0.51 (0.01)
1.77 (0.02)	0.75 (0.02)	-0.01 (0.04)	-0.04 (0.02)	0.36 (0.01)
1.79 (0.03)	1.03 (0.04)	-0.01 (0.01)	-0.01 (0.02)	0.43 (0.01)
0.78 (0.03)	0.20 (0.04)	0.14 (0.03)	-0.03 (0.02)	-0.13 (0.03)
0.69 (0.03)	0.15 (0.04)	0.57 (0.03)	0.52 (0.05)	-0.01 (0.01)
1.54 (0.05)	0.94 (0.03)	0.00 (0.03)	0.00 (0.02)	0.42 (0.01)
0.58 (0.34)	0.33 (0.17)	-0.01 (0.02)	-0.04 (0.02)	0.11 (0.08)
2.05 (0.12)	1.04 (0.08)	0.00 (0.02)	-0.03 (0.02)	0.47 (0.06)
0.06 (0.01)	0.02 (0.02)	-0.01 (0.04)	-0.03 (0.02)	0.02 (0.01)
0.14 (0.15)	0.05 (0.05)	-0.01 (0.02)	-0.03 (0.02)	0.03 (0.02)

FIG. 5C

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poly(styrene/acrylonitrile)	poly(methyloctadecylsiloxane)	poly(vinyl butryral)	poly(ethylene glycol)	poly(2,4,6-tribromostyrene)	polystrene
15	**16**	**17**	**18**	**19**	**20**
0.00 (0.00)	0.42 (0.02)	1.14 (0.27)	2.37 (0.25)	0.12 (0.06)	-0.46 (0.73)
0.00 (0.00)	0.41 (0.03)	0.45 (0.22)	1.23 (0.14)	0.01 (0.02)	-0.01 (0.82)
0.00 (0.00)	0.49 (0.02)	0.89 (0.14)	1.79 (0.08)	0.04 (0.03)	0.23 (0.94)
0.01 (0.00)	0.46 (0.02)	1.04 (0.18)	1.95 (0.06)	0.07 (0.06)	-0.21 (0.80)
0.02 (0.00)	0.28 (0.02)	1.51 (0.20)	2.12 (0.11)	0.25 (0.04)	0.47 (0.59)
0.00 (0.01)	0.72 (0.02)	0.54 (0.21)	1.85 (0.04)	0.01 (0.02)	-0.29 (0.69)
0.00 (0.00)	0.40(0.02)	1.03 (0.23)	1.95 (0.09)	0.13 (0.02)	0.17 (0.32)
0.00 (0.00)	0.49 (0.03)	0.62 (0.19)	2.13 (0.49)	0.03 (0.01)	-0.03 (0.32)
0.01 (0.00)	0.51 (0.01)	0.77 (0.21)	1.73 (0.11)	0.03 (0.02)	0.08 (0.76)
0.00 (0.01)	0.45 (0.02)	0.77 (0.24)	2.08 (0.11)	0.03 (0.03)	0.15 (0.84)
0.00 (0.00)	0.41 (0.02)	1.01 (0.21)	2.41 (0.19)	0.09 (0.05)	0.20 (0.50)
0.01 (0.00)	0.59 (0.02)	0.70 (0.20)	2.34 (0.25)	0.03 (0.03)	-0.09 (0.84)
0.00 (0.00)	0.45 (0.02)	1.03 (0.28)	1.85 (0.07)	0.07 (0.05)	-0.12 (0.79)
0.00 (0.00)	0.36 (0.03)	1.15 (0.17)	2.34 (0.29)	0.14 (0.04)	-0.04 (0.47)
0.00 (0.00)	0.53 (0.02)	0.87 (0.20)	1.63 (0.10)	0.06 (0.08)	-0.12 (0.74)
0.00 (0.00)	0.42 (0.02)	0.90 (0.12)	1.85 (0.06)	0.03 (0.03)	-0.09 (0.73)
0.00 (0.00)	0.50 (0.03)	0.96 (0.31)	1.85 (0.10)	0.07 (0.04)	0.14 (0.71)
0.17 (0.01)	0.23 (0.02)	1.44 (0.25)	2.14 (0.10)	0.42 (0.04)	-0.11 (0.63)
0.62 (0.03)	0.21 (0.02)	1.58 (0.25)	2.78 (0.20)	0.27 (0.03)	0.11 (0.70)
0.00 (0.00)	0.34 (0.02)	0.39 (0.20)	1.75 (0.07)	0.01 (0.03)	-0.21 (0.56)
0.00 (0.00)	0.17 (0.11)	0.34 (0.26)	1.36 (0.48)	0.01 (0.04)	-0.50 (0.76)
0.00 (0.00)	0.46 (0.01)	0.74 (0.16)	2.26 (0.23)	0.08 (0.03)	0.09 (0.48)
0.00 (0.00)	0.01 (0.02)	0.09 (0.18)	0.09 (0.09)	0.00 (0.13)	0.04 (0.78)
0.00 (0.01)	0.04 (0.04)	0.00 (0.14)	0.13 (0.13)	0.01 (0.03)	-0.32 (0.87)

FIG. 5D

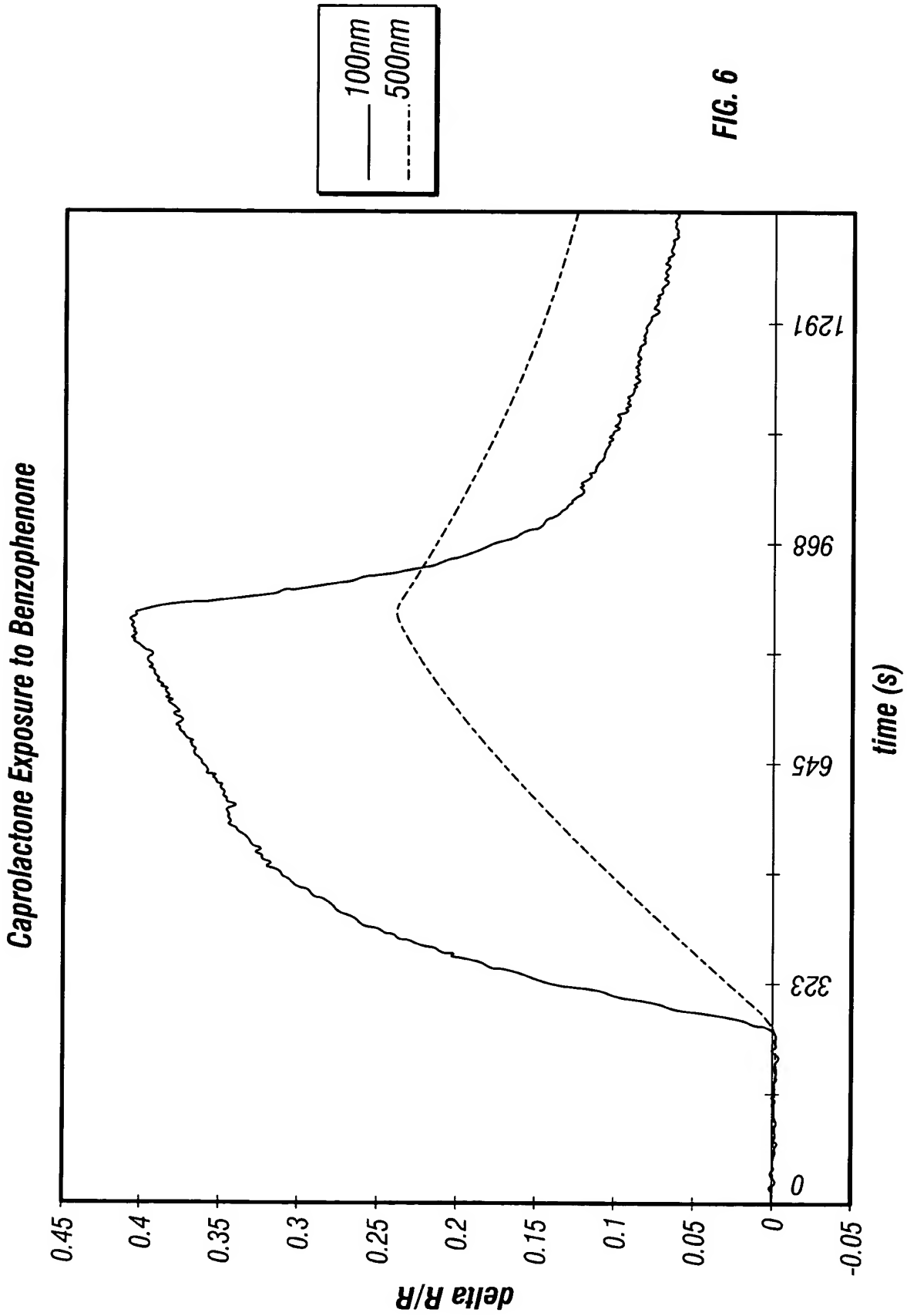
100nm
500nm
Caprolactone Exposure to Benzophenone
delta R/R
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
0
323
645
968
1291
time (s)

FIG. 6

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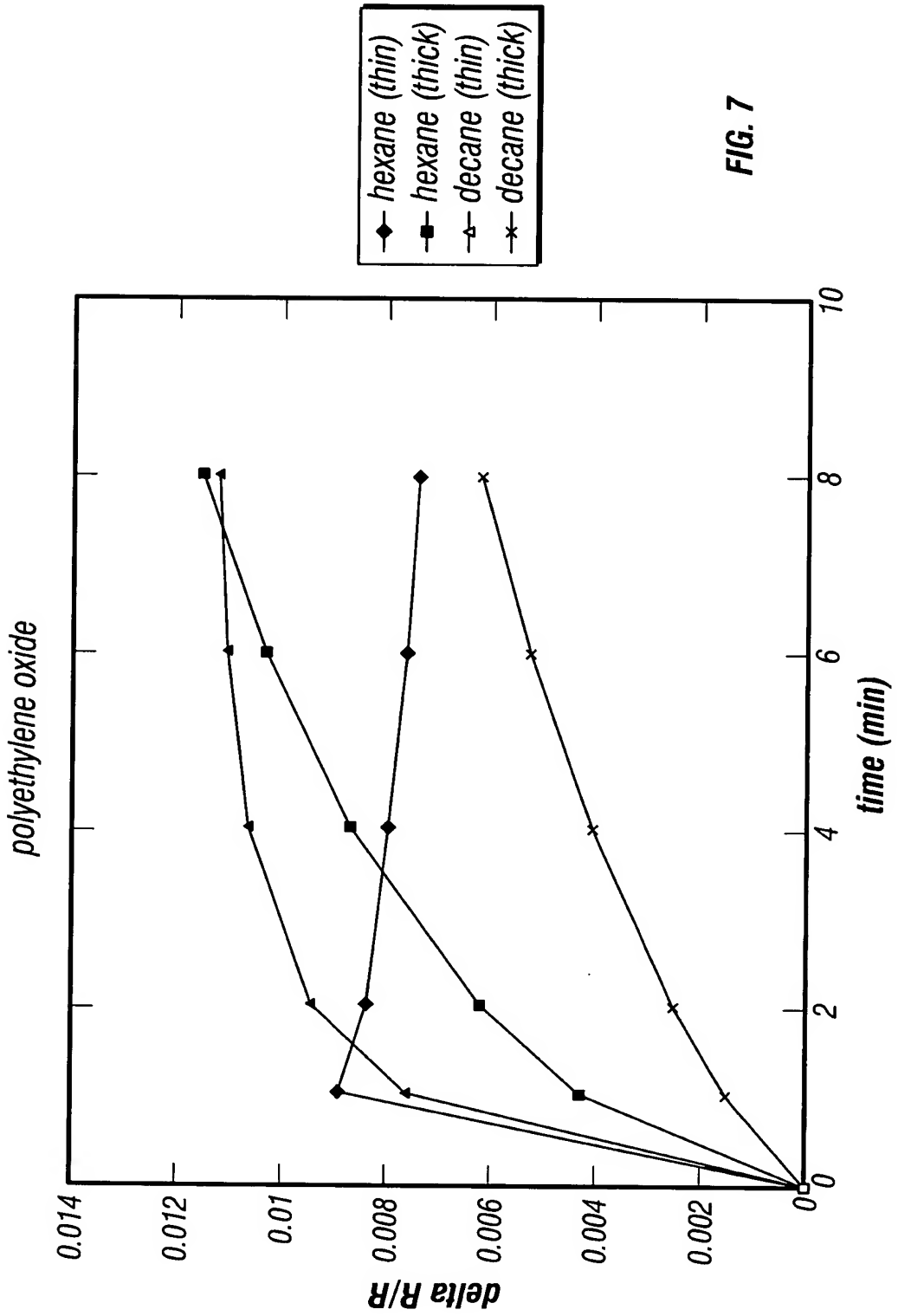
hexane (thin)
hexane (thick)
decane (thin)
decane (thick)
polyethylene oxide
delta R/R
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
0
2
4
6
8
10
time (min)

FIG. 7